**Making Mountains Out of Landfills**

**Subject(s):** Science **Grade:** 4

**Teacher(s):** Shari Brathwaite  **School:** P.S./I.S. 323

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| **LESSON ELEMENT** |
| 1. **Common Core Learning Standard(s) Addressed:** CCSS.ELA-LITERACY.SL.4.1 LE 7.1a,b LE 7.1b,c |
| 1. **Learning Target(s):**  Students will visually track and document different kinds of trash in their community by using photography. Students will reflect on their experience by answering essential questions. |
| 1. **Relevance/Rationale:** Students will see problems surrounding our nation’s reliance on landfills. The lesson offers a valuable opportunity for students to examine their own trash output. |
| 1. **Formative Assessment Criteria for Success:** Creating a visual tracking of trash in their community using cameras. Discussing experiences and making connections of self, community and world. |
| 1. **Activities/Tasks:**   *Motivation/Mini Lesson:*  Ask students to write down the last five things they threw away (home, school, community) on post it notes.  *Mini Lesson/Guided Practice:*  In groups, students will categorize each piece of trash. Students are given the freedom to categorize in whichever way that makes sense to them. Teacher walks around the room monitoring and facilitating groups. Teacher will ask each group to explain their categorizing rationale. Once groups are finished, class will discuss different types of trash (plastics, paper, compost, electronic, fabric). Students are then given time to reorganize their trash category choices. Teacher once again walks around the room monitoring and facilitating groups. When groups are finished, students will use their science journals to make a chart of the group trash.  Class will watch video from America Revealed: Waste Deep  <http://www.pbs.org/america-revealed/teachers/lesson-plan/8/>  Periodically throughout the video teacher will ask essential questions. Students will write their answers in their science journals. *How much trash does America generate each year? Where does it go? What impact does our waste have on the environment? How can we reduce our trash output? What is meant by the “layered cake” analogy? What kinds of trash did you notice in the film? Does the garbage you see in your school or home seem similar or different?*  *Independent Work:*  Students will track trash in their community through photography. Teacher will ask students to reflect about their trash photograph experience and post answers in paragraph form beneath their photo collection. *What did you discover about this particular type of waste? What problems did you observe? How would you solve them? Did your experience make you see your own waste habits any differently?* Students will upload photos/paragraph onto the unit’s Wikispace. During class, students will use laptops to view their classmates “Trash Photographs”. While viewing students will take note of types of trash and where they were found.  *Share:*  Students will share their collective experiences as seen through their “Trash Photographs”. |
| 1. **Resources/Materials:**   Post its  Science Journals  “Waste Deep” video  Cameras  Laptops |
| 1. **Access for All:** Activity is done in groups. Activity is hands on and relates to real world issues. |
| 1. **Modifications/Accommodations:**  Lesson will be modified as needed. For ELL students, review key vocabulary (landfill, waste, methane, compost, solid waste, plastic, paper, recyclables, electronics, terra-cycle, free-cycle) prior to the lesson. |

**Follow up:**

Students will watch “The Story of a Bottle” prior to their trip to **SIMS Municipal Recycling** (located in Brooklyn). The Sims Municipal Recycling offers a free tour of their Recycling Education Center at the Material Recovery Center. Students will have the opportunity to learn about recycling and sustainability, and witness it in action.

<http://www.simsmunicipal.com/Education/The-Story-of-a-Bottle>

Post trip: Despite the possibility that a bottle placed at the curbside for recycling collection can return to the New York City market within 30-60 days, students will discuss other ways of bottling their favorite juices and water.

P.S./I.S. 323

**Science “Trash Photograph” Rubric**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher: Ms. Brathwaite

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|  | **4** | **3** | **2** | **1** |
| **Completion of photographs and paragraphs.** | All required sections are complete and sufficient. | All required sections are complete. | One required sections are incomplete and insufficient. | Both required sections are incomplete and insufficient. |
| **Various kinds of waste are documented** | Various kinds of waste are well documented. The photograph shows where the waste is located. | Various kinds of waste are documented. The photograph shows where the waste is located. | Various kinds of waste are documented. In the photograph it is difficult to see where the waste is located. | The same kinds of waste are documented. In the photograph it is difficult to see/not seen where the waste is located. |
| **Essential Question** | Essential question is answered satisfactorily. | Essential question is mostly answered. | Essential question is answered but there are clear misunderstandings. | Essential question is not answered properly and there are clear misunderstandings. |

Total---->\_\_\_\_